

Rahman P & Jaramillo Garcia A. Screening for abdominal aortic aneurysm: Subgroup Analysis.
<http://canadiantaskforce.ca/guidelines/published-guidelines/abdominal-aortic-aneurysm/>. Updated April 2017.

Screening for Abdominal Aortic Aneurysm Subgroup Analysis: Men over 80 Years of Age and Women

<p>Population: The population of interests were: 1) asymptomatic men older than 80 years of age; and 2) asymptomatic women</p> <p>Option: Interventions of interest were general or targeted screening with ultrasound.</p> <p>Comparison: Varied</p> <p>Main outcomes:</p> <ul style="list-style-type: none">▪ AAA-related mortality▪ All-cause mortality▪ AAA rupture rate▪ Procedures to repair an AAA▪ 30-day mortality following procedures to repair an AAA <p>Setting: Primary care settings</p>	<p>Background: A systematic review on screening for abdominal aortic aneurysm (AAA) was produced for the Canadian Task Force on Preventive Health Care by the Evidence Review and Synthesis Centre at McMaster University in 2015.^{1,2}</p> <p>The aim of this systematic review was to examine the evidence on benefits and harms of screening for abdominal aortic aneurysm by ultrasound in asymptomatic adults aged 50 years and older to inform a task force guideline on this topic.</p> <p>Science officers at the Public Health Agency of Canada prepared two additional GRADE evidence profiles on screening for AAA in subgroup populations; men over 80 years of age and women to inform guideline recommendations for this population.</p> <p>Purpose: This report provides GRADE evidence profiles on the key results of screening for AAA in: 1) asymptomatic men older than 80 years of age; and 2) asymptomatic women.</p>
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Question: Should men over the ages of 80 be screened for AAA?³⁻⁶

Bibliography: 1) Ashton et al. 2002 (MASS); 2) Lindholt et al. 2005 (Viborg); 3) Norman et al. 2004 (W. Australia); 4) Scott et al. 1995 (Chichester)

Quality assessment							№ of patients		Effect		Quality	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Screening	No Screening	Relative (95% CI)	Absolute (95% CI)		
AAA Mortality - By length of Follow-up - 3 to 5 years of follow-up (follow-up 3.6 to 5.0 years; assessed with: Objectively)												
4 ³⁻⁶	randomised trials	serious ^a	not serious	serious ^b	not serious	none	102/62729 (0.2%)	182/62847 (0.3%)	RR 0.5661 (0.4439 to 0.7221)	1,257 fewer per 1,000,000 (from 805 fewer to 1,610 fewer)	⊕⊕○○ LOW	CRITICAL
AAA Rupture - By length of Follow-up - 3 to 5 years of follow-up (follow-up 3.6 to 5.0 years; assessed with: Objectively)												
4 ³⁻⁶	randomised trials	serious ^a	not serious	serious ^b	not serious	none	117/62729 (0.2%)	218/62847 (0.3%)	RR 0.5247 (0.3475 to 0.7922)	1,649 fewer per 1,000,000 (from 721 fewer to 2,263 fewer)	⊕⊕○○ LOW	CRITICAL
Elective AAA operations – 3 to 5 years follow-up												
4 ³⁻⁶	randomised trials	serious ^a	not serious	serious ^b	not serious	none	505/62729 (0.8%)	162/62847 (0.3%)	RR 3.2535 (2.1341 to 4.9603)	6 more per 1,000 (from 3 more to 10 more)	⊕⊕○○ LOW	CRITICAL
Emergency operations - By length of Follow-up - 3 to 5 years of follow-up (follow-up 3.6 to 5 years; assessed with: Objectively)												
4 ³⁻⁶	randomised trials	serious	not serious	serious ^b	not serious	none	44/62729 (0.1%)	90/62847 (0.1%)	RR 0.4971 (0.2875 to 0.8595)	720 fewer per 1,000,000 (from 201 fewer to 1,020 fewer)	⊕⊕○○ LOW	CRITICAL
30 day mortality, elective AAA operations – 3 to 5 years follow-up												
4 ³⁻⁶	randomised trials	serious ^a	not serious	serious ^b	not serious	none	21/505 (4.2%)	13/162 (8.0%)	RR 0.5102 (0.2618 to 0.9944)	39 fewer per 1,000 (from 0 fewer to 59 fewer)	⊕⊕○○ LOW	
30 day mortality, emergency AAA operations – 3 to 5 years follow-up												
3 ⁴⁻⁶	randomised trials	serious ^a	not serious	serious	not serious	none	10/39 (25.6%)	29/70 (41.4%)	RR 0.6678 (0.3686 to 1.2098)	138 fewer per 1,000 (from 87 more to 262 fewer)	⊕⊕○○ LOW	

CI: Confidence interval; **RR:** Risk ratio

Explanations

a. Provided unclear information on "sequence generation" and "allocation concealment"

b. We downgraded for indirectness as the magnitude of effect for all-cause mortality would be different in men over the ages of 80 years.

Question: Should women be screened for AAA?⁵

Bibliography: Scott et al. 1995 (Chichester)

Quality assessment							№ of patients		Effect		Quality	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Screening women	not screening women	Relative (95% CI)	Absolute (95% CI)		
AAA mortality (5 years)												
1 ⁵	randomised trials	serious ^a	not serious	not serious	serious ^b	none	2/3052 (0.1%)	2/4660 (0.0%)	RR 1.49 (0.25 to 8.93)	210 more per 1,000,000 (from 322 fewer to 3,403 more)	⊕⊕○○ LOW	CRITICAL
AAA Mortality (10 years)												
1 ⁵	randomised trials	serious ^a	not serious	not serious	serious ^b	none	n/a	n/a	RR 1.00 (0.37 to 2.65)	1 fewer per 1,000,000 (from 0 fewer to 3 fewer)	⊕⊕○○ LOW	CRITICAL
AAA All cause mortality												
1 ⁵	randomised trials	serious ^a	not serious	not serious	serious ^b	none	236/3052 (7.7%)	508/4660 (10.9%)	RR 1.05 (0.93 to 1.18)	5,451 more per 1,000,000 (from 7,631 fewer to 19,622 more)	⊕⊕○○ LOW	CRITICAL
AAA Rupture												
1 ⁵	randomised trials	serious ^a	not serious	not serious	serious ^b	none	2/3052 (0.1%)	2/4660 (0.0%)	RR 1.49 (0.25 to 8.93)	210 more per 1,000,000 (from 322 fewer to 3,403 more)	⊕⊕○○ LOW	CRITICAL
AAA Rupture (10 years)												
1 ⁵	randomised trials	serious ^a	not serious	not serious	serious ^b	none	10/3052 (0.3%)	9/4660 (0.2%)	RR 1.11 (0.45 to 2.72)	212 more per 1,000,000 (from 1,062 fewer to 3,322 more)	⊕⊕○○ LOW	CRITICAL

CI: Confidence interval; RR: Risk ratio

Explanations

- Provided unclear information on sequence generation, allocation concealment. A higher proportion of women in the older age group declined the invitation to be screened.
- Wide range of absolute values

References

1. Fitzpatrick-Lewis D, Warren R, Ali MU, et al. Screening for abdominal aortic aneurysm: Systematic review and meta-analysis. <http://canadiantaskforce.ca/guidelines/published-guidelines/abdominal-aortic-aneurysm/>. Updated 2017.
2. Ali MU, Fitzpatrick-Lewis D, Raina P, Warren R, Kenny M, Raina P. Screening for abdominal aortic aneurysm: Updated GRADE tables. <http://canadiantaskforce.ca/guidelines/published-guidelines/abdominal-aortic-aneurysm/>. Updated 2017.
3. Lindholt JS, Juul S, Fasting H, Henneberg EW. Screening for abdominal aortic aneurysms: Single centre randomised controlled trial. *BMJ*. 2005;330(7494):750.
4. Norman PE, Jamrozik K, Lawrence-Brown MM, Le MT, Spencer CA, Tuohy RJ, Parsons RW, Dickinson JA. Population based randomised controlled trial on impact of screening on mortality from abdominal aortic aneurysm. *BMJ*. 2004;329(7477):1259.
5. Scott RAP, Wilson NM, Ashton HA, Kay DN. Influence of screening on the incidence of ruptured abdominal aortic aneurysm: 5-year results of a randomized controlled study. *Br J Surg*. 1995;82(8):1066-1070.
6. Ashton H, Buxton M, Day N, Kim LG, Marteau TM, Scott RA, et al. The multicentre aneurysm screening study (MASS) into the effect of abdominal aortic aneurysm screening on mortality in men: A randomised controlled trial. *Lancet*. 2002;360(9345):1531-1539.